

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A packet communication method of communication employing a packet having a transmission-source address and a destination address, comprising the steps of:

- a) making a predetermined number of bits of the transmission-source address and a predetermined number of bits of the destination address of a the packet be predetermined ~~addresses~~ address portions;
- b) sending the packet from a transmission-source terminal to a source-side repeating node, and then converting at the source-side repeating node the predetermined address portion of the transmission-source address into an address of a higher-rank station for said a source-side repeating node, ~~which repeats the packet from a transmission-source terminal after first converting the predetermined address of the transmission-source address of the received packet into an address of a higher-rank station of said repeating node;~~ and
- c) said source-side repeating node converting the predetermined address portion of the destination address ~~of the received packet~~ into an address of a higher-rank station of a last destination-side repeating node for a destination terminal, and transferring the packet.

Claim 2 (Currently Amended): The method as claimed in claim 1, wherein when the address of the higher-rank station of the last destination-side repeating node for the destination terminal is not known, the source-side repeating node, ~~which repeats the packet from the transmission-source terminal first,~~ converts the predetermined address portion of the transmission-source address ~~of the received packet~~ into an address of a node having a table of that includes addresses for an address of a higher-rank stations for station of a last repeating nodes ~~node for~~ of respective terminal ~~each terminal, when the address of the higher-rank~~

~~station of the last repeating node for the destination terminal is not known,~~ and transfers the packet.

Claim 3 (Currently Amended): The method as claimed in claim 2, wherein the node having the table ~~of the address of the higher-rank station of the last repeating node for each terminal~~ converts ~~an~~ its own address in the predetermined address portion of the destination address ~~of the received packet~~ into the address of the higher-rank station of the last destination-side repeating node for a destination terminal, and then transfers the packet.

Claim 4 (Currently Amended): The method as claimed in claim 1, wherein:
the higher-rank station of the source-side repeating node, ~~which repeats the packet from the transmission-source terminal first,~~ transfers the received packet without changing the predetermined address portion of the transmission-source address when the address of the higher-rank station in the predetermined address portion of the transmission-source address of the received packet coincides with ~~the~~ its own address, namely the address of the higher-rank station of the source-side repeating node ~~of the own station,~~ and

when the address of the higher-rank station in the predetermined address portion of the transmission-source address of the received packet does not coincide with its own address, converts the address of the higher-rank station in the predetermined address portion of the transmission-source address of the received packet into its own ~~the address of the own station when the address of the higher-rank station in the transmission-source address of the received packet does not coincide with the address of the own station,~~ and then transfers the packet.

Claim 5 (Currently Amended): The method as claimed in claim 4, wherein when the address of the higher-rank station in the predetermined address portion of the transmission-source address does not coincide with its own address, the higher-rank station of the source-side repeating node, ~~which repeats the packet from the transmission-source terminal first,~~ further instructs the higher-rank station having the predetermined address portion of the transmission-source address originally written in the received packet to transfer a packet addressed to said transmission-source terminal to the higher-rank station of the source-side repeating node ~~the own station,~~ when the address of the higher-rank station in the transmission-source address of the received packet does not coincide with the address of the own station, and

further instructs a node having the a table of the address addresses of respective ~~the~~ higher-rank stations ~~station of the last repeating nodes for~~ node for respective terminals each terminal to update said table.

Claim 6 (Currently Amended): The method as claimed in claim 1, wherein:
when the address of the higher-rank station in the destination address coincides with its own address, and no transfer instructions are given for the destination terminal, ~~the~~ higher-rank station of the last destination-side repeating node for the destination terminal transfers the received packet without changing the destination address, ~~when the address of the higher-rank station in the destination address coincides with the address of the own station and no transfer instructions are given for the destination terminal,~~ and

when the address of the higher-rank station in the destination address of the received packet coincides with its own address and transfer instructions are given for the destination terminal, the higher-rank station of the last destination-side repeating node converts the address of the higher-rank station of the destination address ~~of the received packet~~ into an

address of a higher-rank station of the destination ~~of the instructed~~ as described in the transfer instructions, ~~when the address of the higher-rank station in the destination address of the received packet coincides with the address of the own station and transfer instructions are given for the destination terminal, and then transfers the packet.~~

Claim 7 (Currently Amended): The method as claimed in claim 1, wherein:
when the address of the higher-rank station in the destination address of the received packet does not coincide with its own address, the higher-rank station of the last destination-side repeating node for the destination terminal transfers the packet; ~~when the address of the higher-rank station in the destination address of the received packet does not coincide with the address of the own station.~~

Claim 8 (Currently Amended): The method as claimed in claim 1, wherein the last destination-side repeating node for the destination terminal converts ~~the addresses of the~~ higher-rank stations in the transmission-source address and destination address of the received packet into the predetermined ~~addresses~~ address portions, and transfers the packet to the destination terminal.

Claim 9 (Currently Amended): The method as claimed in claim 1, wherein, in a case where the destination terminal belongs to another network,

the transmission-source terminal transmits the packet having an address given to the destination terminal as the destination address thereof;

the source-side repeating node, ~~which repeats the packet from the transmission-source terminal first,~~ converts the predetermined address portion of ~~the~~ the transmission-source address of the received packet into the address of the higher-rank station of said source-side

repeating node, and transfers the packet to a gateway station which provides an interface with the other network; and

said gateway station converts the address of the higher-rank station of the received packet into the predetermined address, and transfers the packet into said other network.

Claim 10 (Currently Amended): The method as claimed in claim 1, wherein, in a case where the transmission-source terminal belongs to another network,

said transmission-source terminal transmits the packet having an address given to the destination terminal as the destination address thereof; and

a gateway station which provides an interface with said other network converts the predetermined address portion of ~~in~~ the destination address of the received packet into the address of the higher-rank station of the last destination-side repeating node for said destination terminal, and then transfers the packet.

Claim 11 (Currently Amended): A node apparatus used in a packet communication system of communication employing a packet having a transmission-source address and a destination address, comprising:

a repeating part ~~repeating~~ configured to repeat the packet from a transmission-source terminal, said packet having a predetermined number of bits of the transmission-source address and a predetermined number of bits of the destination address thereof made to be predetermined ~~addresses~~ address portions;

an address converting part configured to convert ~~converting~~ the predetermined address portion of the transmission-source address ~~of the received packet~~ into an address of a higher-rank station of said node apparatus,

said address converting part further converting the predetermined address portion of the destination address ~~of the received packet~~ into an address of a higher-rank station of a last destination-side repeating node for a destination terminal of the packet; and
a transferring part configured to transfer~~part transferring~~ the packet.

Claim 12 (Currently Amended): The node as claimed in claim 11, wherein:

when the address of the higher-rank station of the last destination-side repeating node for the destination terminal is not known, said address converting part ~~converts~~ is configured to convert the predetermined address portion of the transmission-source address ~~of the received packet~~ into an address of a node having a table that includes addresses ~~of an address of a~~ for higher-rank stations~~station~~ of a last repeating nodes ~~node~~ for respective ~~terminal~~each terminal, ~~when the address of the higher-rank station of the last repeating node for the destination terminal is not known; and~~
said transferring part ~~transfers~~ the packet.

Claim 13 (Currently Amended): A node apparatus used in a packet communication system ~~of communication employing~~ that employs a packet having a transmission-source address and a destination address, each with predetermined address portions, comprising:

an address converting part, which has a table of ~~an address~~ addresses of a higher-rank ~~stations~~station of a last repeating ~~nodes~~ node for each respective terminal, and is configured to convert in said packet it~~se~~converting an the own address in the predetermined address portion of the destination address of a received packet into an~~the~~ address of the higher-rank station of ~~the a last destination-side~~ repeating node for a destination terminal ~~of said packet~~; and
a transferring part configured to transfer~~transferring~~ the packet.

Claim 14 (Currently Amended): A node apparatus used in a packet communication system ~~of communication employing~~that employs a packet having a transmission-source address and a destination address, each with predetermined address portions, comprising:

an address converting part configured to convert~~converting~~ an address of a higher-rank station in the transmission-source address of a received packet into its own ~~an~~ address ~~of the own apparatus~~ when the address of the higher-rank station in the transmission-source address of the received packet does not coincide with its own ~~the address of the own~~ apparatus, before being transferred through a transferring part; and

said transferring part configured to transfer~~transferring~~ the received packet without changing the transmission-source address through said address converting part when the address of the higher-rank station in the transmission-source address of the received packet coincides with its own ~~the address of the own~~ apparatus.

Claim 15 (Currently Amended): The node as claimed in claim 14, further comprising:

-an instructing part configured to instruct~~instructing~~ a higher-rank station having the transmission-source address originally written in the received packet to transfer a packet addressed to said transmission-source terminal to node~~the own apparatus~~, when the address of the higher-rank station in the transmission-source address of the received packet does not coincide with the address of the node~~own apparatus~~, and

further instructing another node that has~~having~~ a table of addresses~~an address~~ of a higher-rank stations~~station~~ of a last repeating nodes ~~node~~ for respective of each terminal to update said table accordingly.

Claim 16 (Currently Amended): A node apparatus used in a packet communication system ~~of communication employing~~ that employs a packet having a transmission-source address and a destination address, each with predetermined address portions, comprising:
an address converting part ~~converting~~ configured to convert an address of a higher-rank station of ~~the~~ a predetermined portion of a destination address of a received packet into an address of a higher-rank station of ~~another~~ a destination that is identified in an instructed transfer, when the address of the higher-rank station in the predetermined portion of the destination address ~~of the received packet~~ coincides with ~~an~~ its own address ~~of the own apparatus~~ and transfer instructions are given for the destination terminal, before being transferred through a transferring part; and

said transferring part configured to transfer ~~transferring~~ the received packet without changing the destination address through the address converting part, when the address of the higher-rank station in the destination address coincides with ~~the address of the own apparatus~~ its own address and no transfer instructions are given for the destination terminal.

Claim 17 (Currently Amended): A node apparatus used in a packet communication system ~~of communication employing~~ that employs a packet having a transmission-source address and a destination address, each with predetermined address portions, comprising:
a determining part ~~determining~~ configured to determine whether ~~or not~~ an address of a higher-rank station in the destination address of a received packet does not coincide with an address of the node apparatus ~~the own apparatus~~; and
a transferring part configured to transfer ~~transferring~~ the packet, when the address of the higher-rank station in the destination address of the received packet does not coincide with the address of the node apparatus ~~own apparatus~~ as a result of the determination result of said determining part.

Claim 18 (Currently Amended): A node apparatus used in a packet communication system ~~that employs of communication employing~~ a packet having a transmission-source address and a destination address, each with predetermined portions, comprising:

- an address converting part ~~configured to convert~~converting addresses of higher-rank stations in transmission-source address and destination address of a received packet into predetermined fixed-addresses; and
- a transferring part ~~configured to transfer~~transferring the packet to the destination terminal.

Claim 19 (Currently Amended): A node apparatus used in a packet communication system ~~that employs of communication employing~~ a packet having a transmission-source address and a destination address, each with predetermined portions, said node providing an interface between different networks, comprising:

- an address converting part ~~configured to convert~~converting an address of a higher-rank station of a received packet into a predetermined address; and
- a transferring part ~~configured to transfer~~transferring the packet into another network.

Claim 20 (Currently Amended): A node apparatus used in a packet communication system ~~that employs of communication employing~~ a packet having a transmission-source address and a destination address, said node providing an interface between different networks, comprising:

- an address converting part ~~configured to convert~~converting a predetermined address in the destination address of a received packet into an address of a higher-rank station of a destination-side last repeating node for a destination terminal of the packet; and

a transferring part configured to transfer ~~transferring~~ the packet.

Claim 21 (Currently Amended): A packet communication system of communication employing a packet having a transmission-source address and a destination address, each with predetermined address portions, comprising:

a transmission-side terminal making a predetermined number of bits of the transmission-source address and a predetermined number of bits of the destination address of a packet to be the predetermined address portions ~~addresses~~; and

a source-side repeating node, which repeats the packet from said transmission-source terminal ~~first~~, is configured to convert ~~converting~~ the predetermined address of the transmission-source address of the received packet into an address of a higher-rank station of said source-side repeating node, wherein

said repeating node is configured to convert ~~converting~~ the predetermined address of the destination address of the received packet into an address of a higher-rank station of a last destination-side repeating node for a destination terminal, and transfer ~~transferring~~ the packet.

Claim 22 (Currently Amended): The system as claimed in claim 21, wherein when the address of the higher-rank station of the last destination-side repeating node for the destination terminal is not known, said source-side repeating node, which repeats the packet from the transmission-source terminal ~~first~~, converts the predetermined address of the transmission-source address of the received packet into an address of a node having a table of an address ~~addresses~~ for ~~of~~ a higher-rank stations ~~station~~ of ~~respective~~ a last repeating nodes ~~node~~ for each terminal, ~~when the address of the higher-rank station of the last repeating node for the destination terminal is not known~~, and then transfers the packet.

Claim 23 (Currently Amended): The system as claimed in claim 22, wherein the node having the table of the address of the higher-rank station of the last repeating node for each terminal converts the its own address in the destination address of the received packet into the address of the higher-rank station of the last destination-side repeating node for a destination terminal, and then transfers the packet.

Claim 24 (Currently Amended): The system as claimed in claim 21, wherein:
the higher-rank station of the source-side repeating node, which repeats the packet from the transmission-source terminal first, transfers the received packet without changing the transmission-source address when the address of the higher-rank station in the transmission-source address of the received packet coincides with an its own the address of the own station, and

converts the address of the higher-rank station in the transmission-source address of the received packet into the its own address of the own station when the address of the higher-rank station in the transmission-source address of the received packet does not coincide with the its own address of the own station, and then transfers the packet.

Claim 25 (Currently Amended): The system as claimed in claim 24, wherein the higher-rank station of the source-side repeating node, which repeats the packet from the transmission-source terminal first, further instructs the higher-rank station having the transmission-source address originally written in the received packet to transfer a packet addressed to said transmission-source terminal to itself the own station, when the address of the higher-rank station in the transmission-source address of the received packet does not coincide with its own the address of the own station, and

further instructs a node having ~~at~~ the table of the ~~address~~ addresses of the higher-rank station of respective ~~the~~ last repeating ~~nodes~~ node for each terminal so as to update said table.

Claim 26 (Currently Amended): The system as claimed in claim 21, wherein the higher-rank station of the destination-side last repeating node ~~for the destination terminal~~ transfers the received packet without changing the destination address, when the address of the higher-rank station in the destination address coincides with its own ~~the address of the own station~~ and no transfer instructions are given for the destination terminal, and converts the address of the higher-rank station of the destination address of the received packet into an address of a higher-rank station of the destination terminal identified in an instruction transfer ~~of the instructed transfer~~, when the address of the higher-rank station in the destination address of the received packet coincides with its own address ~~the address of the own station~~ and transfer instructions are given for the destination terminal, and transfers the packet.

Claim 27 (Currently Amended): The system as claimed in claim 21, wherein the higher-rank station of the last destination-side repeating node for the destination terminal transfers the packet, when the address of the higher-rank station in the destination address of the received packet does not coincide with its own address ~~the address of the own station~~.

Claim 28 (Currently Amended): The system as claimed in claim 21, wherein the last destination-side repeating node for the destination terminal converts the addresses of the higher-rank stations in the transmission-source address and destination address of the received packet into the predetermined ~~fixed~~ addresses, and transfers the packet to the destination terminal.

Claim 29 (Currently Amended): The system as claimed in claim 21, wherein, in a case where the destination terminal belongs to another network,

the transmission-source terminal transmits the packet having an address given to the destination terminal as the destination address thereof;

the repeating node, which repeats the packet from the transmission-source terminal first, converts the predetermined ~~fixed~~-address in the transmission-source address of the received packet into the address of the higher-rank station of said repeating node, and transfers the packet to a gateway station which provides an interface with the other network; and

said gateway station converts the address of the higher-rank station of the received packet into the predetermined ~~fixed~~-address, and transfers the packet into said other network.

Claim 30 (Currently Amended): The system as claimed in claim 21, wherein, in a case where the transmission-source terminal belongs to another network,

said transmission-source terminal transmits the packet having an address given to the destination terminal as the destination address thereof; and

a gateway station which provides an interface with said other network converts the predetermined ~~fixed~~-address in the destination address of the received packet into the address of the higher-rank station of the last repeating node for said destination terminal, and transfers the packet.